

Winter Weather Preparedness Week

Indiana Winter Weather Preparedness Week—November 8-14, 2020

Governor Eric Holcomb has proclaimed November 8-14, 2020 as Winter Weather Preparedness Week in Indiana.

As cold and snow begin in earnest across Indiana, the National Weather Service (NWS), Indiana Department of Homeland Security (IDHS), Indiana Department of Transportation

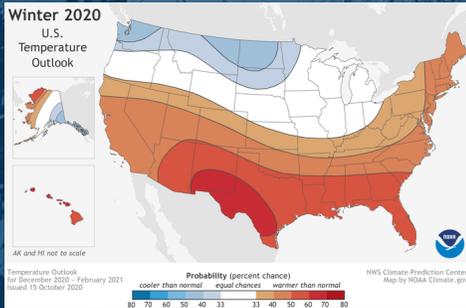
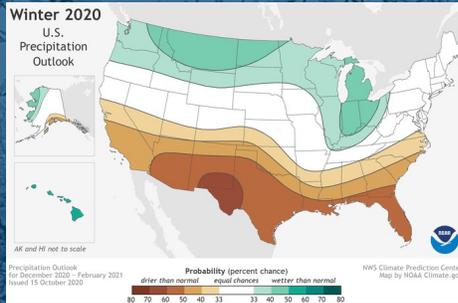
(INDOT), Indiana State Police (ISP), American Red Cross and the Indiana Department of Education (IDOE) are encouraging Hoosiers to prepare now for potential winter impacts. Preparedness Week is your reminder that you need to be ready for the hazards winter brings such as ice storms, tornado outbreaks, heavy rain, high

winds, and snow squalls. Let's do our part to lead us toward a Weather Ready Nation.

Officials from each organization will be available for interviews to help you better understand the outlook for this winter, what preparation plans are being made, and how citizens can be ready.

Winter 2020-2021 Outlook

The official outlook from NOAA's Climate Prediction Center (CPC) is calling for odds favoring greater chances for near to above normal temperatures and above normal precipitation. The CPC uses a combination of techniques to derive their forecasts, which includes looking at current states of the Earth's atmosphere and oceans as well as statistical analysis tools and trends in the historical data. The outlook maps provide a probability forecast based on the analysis.



This winter, conditions indicate a signal for a Moderate strength La Niña (a cooling of the equatorial Pacific Ocean waters). In addition to La Niña, long-term trends become a key predictor for the outlook, while other climate patterns will likely play a larger role in determining weather at times during the winter. Typically, the Ohio Valley experiences wetter than normal conditions during the winter when the ENSO climate pattern is in the cooler La Niña phase.

Average winter high temperatures range from the lower 30s in northern Indiana to the low and mid 40s in southern portions of the state. Lows typically range from the upper teens to the mid and upper 20s from north to south across the state. Annual snowfall averages from 15 to 20 inches over far southwest Indiana to over 70 inches in some areas near Lake Michigan.

Additional factors such as the NAO (North Atlantic Oscillation), the AO (Arctic Oscillation), the PDO (Pacific Decadal Oscillation) and the EPO (East Pacific Oscillation) are likely to have an impact on the weather this winter but can only be forecast a few weeks in advance with any reasonable skill. Always check for the latest updates, which are issued near the beginning and middle of each month, CPC outlooks are available at <http://www.cpc.ncep.noaa.gov>.

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What's New

Snow Squall Warnings

What is a Snow Squall?

An intense burst of snow and winds that can last 1 to 3 hours which can cause whiteout visibility and rap-

idly deteriorating road conditions.

When will Snow Squall Warnings be issued?

They will be issued when a snow squall is occurring or happening in the near future. These warnings will cover a small targeted area and will typically be in effect for 30-60 minutes. Snow squall warnings will be similar to how tornado and severe thunderstorm

warnings are issued.

How can one stay safe during a snow squall?

Have a way to get forecasts and warnings. Consider an alternate route or delay travel plans. Watch out for rapidly changing road conditions, reduce driving speed and use low beam headlights if caught in a snow squall.

Do snow squalls occur in Indiana?

Yes! On January 31, 2013 in Plainfield, Indiana, a snow squall caused a 35 vehicle pile up that resulted in one death along I-70.



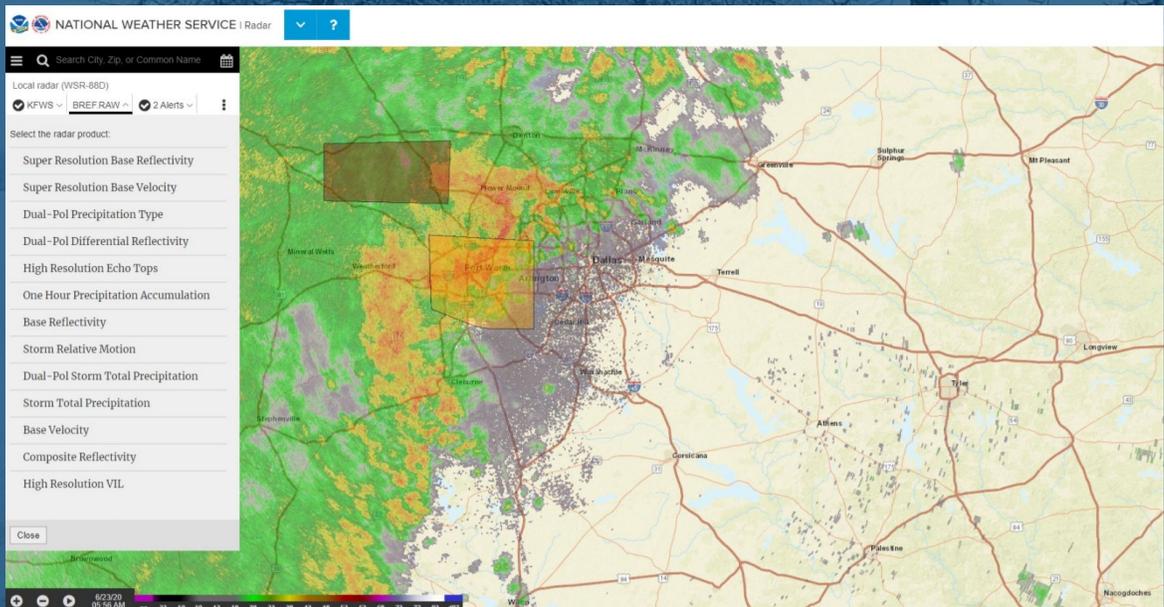
New Radar Display Coming to NWS Websites

For more information and to preview the new radar display, visit www.weather.gov/ind/newradardisplay

On December 8th, 2020, the National Weather Service will be replacing its webpage radar display with a new graphical interface display. For WFO IND, this will be accessible through a link at the bottom of our homepage at www.weather.gov/ind. The overall radar display will see a much needed improvement in radar

reflectivity resolution as well as the capability to overlay a plethora of layers and information for the public. Some of these layers include current hazards, various map backgrounds, county, state and CWA outlines and a pin drop for your location. Most overlays and information can be utilized through a new navigation

tool in the upper left hand corner of the display. Our hope is to further improve communication of weather and hazards to the public and our partners. As with any new software, there could be some setbacks at launch. However, we will continue to work hard to alleviate any malfunctions that may occur with the radar display update.



An example of the new radar display from the KFWD radar overlaid with warning boxes

Winter Weather Terms... What to listen for

Winter Storm Watch—alerts the public to the possibility of a blizzard, heavy snow, an ice storm, or heavy sleet. Winter Storm Watches are usually issued 12 to 48 hours before the beginning of a winter storm.

Winter Storm Warning—issued when hazardous winter weather in the form of heavy snow, freezing rain, or heavy sleet is imminent or occurring. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.

Ice Storm Warning— issued when significant and damaging ice accumulations (usually one quarter inch or more) are expected.

Blizzard Warning— for winds/ gusts in excess of 35 mph reducing visibility to 1/4 mile from snow for 3+ hours.

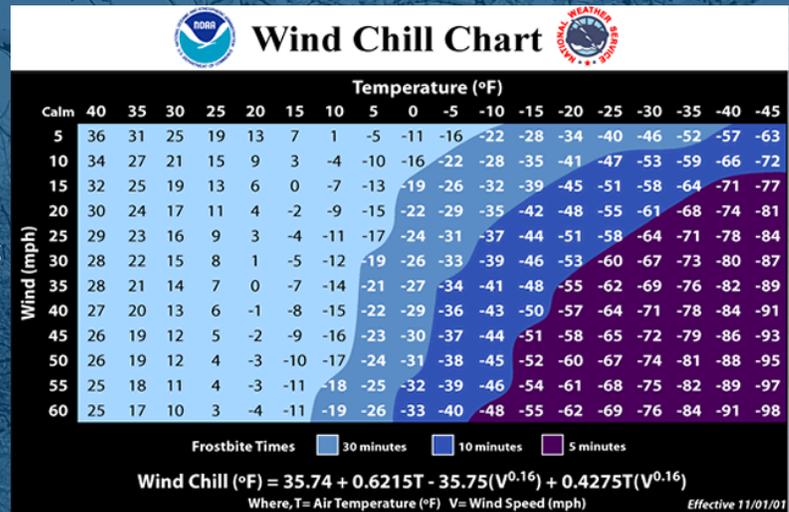
Snow Squall Warning— issued for short, intense periods of moderate to heavy snowfall that produces severely restricted visibilities of 1/4 mile or less. Slick roads are also possible, due to sub-freezing road temperatures or quickly falling temperatures that will likely to produce flash freeze conditions.

Advisories— issued for weather events that are hazardous, but not severe enough to warrant a warning. Advisories may be issued for snow, blowing snow, freezing rain, freezing drizzle, wind chill or wind, dense fog or freezing fog.

Cold Related Illnesses

Frostbite— Frostbite is damage to body tissue caused by extreme cold. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose. If symptoms are detected, get medical help immediately! If you must wait for help, slowly re-warm the affected areas. However, if the person is also showing signs of hypothermia, warm the body core before the extremities.

Hypothermia— Low Body Temperature
Warning signs— Uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and apparent exhaustion.



Warning Signs of Hypothermia



weather.gov/cold

Detection— Hypothermia occurs when the body temperature drops below 95°F. If a person's temperature is below 95°F, seek medical care immediately! If medical care is not available, begin warming the person slowly. Warm the body core before the extremities (arms and legs). Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure. If needed, use your own body heat to help. Get the person into dry clothing and wrap them in a warm blanket, covering the head and neck. **Do not give the person alcohol, drugs, coffee, or any hot beverage or food; warm broth is better.**

Winter Preparedness

A Kit for Your Home

- Food and Water for 3 days (1 gallon of water per person per day)
- Flashlights and extra batteries
- Battery-powered or hand-crank radio (NOAA Weather Radio, if possible)
- First aid kit
- Medications (7-day supply) and medical items
- Extra Cash
- Multi-purpose tool
- Sanitation and personal hygiene items
- Copies of personal documents
- Cell phone with chargers
- Family and emergency contact information
- Emergency blanket
- Baby and Pet supplies



Stay Safe and Warm at Home

- Use only portable heating equipment approved for indoor use and monitor it closely, especially around children. Turn it off and unplug if you leave or go to bed.
- Keep combustible materials (clothing, furniture, drapes, etc.) at least 3 feet from the heat source. Never drape clothes over a space heater to dry.
- Do not use a stove or oven to heat rooms.
- Don't overload electrical circuits
- The American Red Cross offers free home smoke alarm installations. The Home Fire Campaign aims to reduce home fire deaths and injuries by 25%. For more information, visit www.redcross.org/local/indiana/about-us/home-fire-campaign.html
- Looking to sign up for a free smoke alarm? Sign up here: indianaregionreporting.wufoo.com/forms/r648xkeowst1ky/

NOAA All Hazards Radio



Keep ahead of the storm by listening to NOAA Weather Radio for the latest winter storm watches, warnings, and advisories. In addition to routine broadcasts, the Specific Area message Encoding (SAME) feature of NOAA Weather Radio Activates the Emergency Alert System (EAS). EAS is used to provide notifications of

emergencies to the public. Blizzard and most other winter warnings will be distributed through the EAS.

Did you know?? Special needs NOAA Weather Radios designed to meet the needs of the hearing impaired are available. For more infor-

mation, visit: www.nws.noaa.gov/nwr/info/special_needs.html

For more information, visit: www.nws.noaa.gov/nwr/

Tips for Safe Alternative Heating

- Keep all flammable materials at least 3 feet away from heating equipment
- Regular cleaning and annual inspections by a professional chimney sweep will help keep a fireplace free from obstructions and creosote which was the leading factor contributing to home heating fires between 2009 and 2013 according to the National Fire Protection Association (NFPA)
- Use only paper or kindling wood, not a flammable liquid, to start a fire
- Use only dry, seasoned wood in a fireplace or wood stove to avoid the buildup of creosote. Do not use artificial logs in wood stoves
- If using a gas fireplace, ensure the fireplace vents properly and that there is a functioning carbon monoxide detector in the room
- Keep fire extinguishers on hand and know how to use them

Space Heater Safety

- When buying a new space heater, make sure it carries the mark of an independent testing laboratory and is legal for use in our community
- Use the proper grade of fuel for your liquid-fueled space heater and never use gasoline in any heater not approved for gasoline use
- Refuel space heaters only in a well ventilated area and when the equipment is cool
- Plug power cords only into outlets with sufficient capacity and never into an extension cord
- Turn off space heaters whenever the room they are in is unoccupied
- Turn off space heaters when you go to bed each night to avoid knocking them over in the dark or kicking covers onto them

Tips for Reducing Heating Costs

- Make sure your home is properly insulated
- Caulk and weather strip doors and windows to keep out cold air
- Install a programmable thermostat and set it to lower the temperature at night and whenever the house is unoccupied
- Keep doors and windows closed as much as possible, including overhead doors on attached garages
- Insulate the pipes around the water heater with inexpensive, easy-to-install pipe insulation
- Always unplug holiday lights before going to bed or leaving the house

The National Fire Protection Association said heating equipment was the 2nd leading cause of home fire deaths in the US from 2009 to 2013

Among fatal home heating fires, the leading factor contributing to the ignition of the fires was heating equipment stationed too close to flammable materials.

For more information about winter heating safety, visit www.getprepared.in.gov. For additional emergency efficiency and money saving tips contact your local utility company or visit www.energy.gov/energysaver

Winter-Wise Driving Tips: Safe Spacing for Plow Drivers & Others



For information on winter safety tips for the vehicle, visit the **INDOT** website at www.in.gov/indot/2439.htm or the **IDHS** website at www.getprepared.in.gov

- Pay attention to weather reports on the radio. Allow time in your schedule for bad weather and/or traffic delays.
- Become familiar with your vehicle's winter weather operating characteristics. Front-wheel drive vehicles generally handle better than rear-wheel vehicles on slippery roads because the weight of the engine is on the drive wheels, improving traction.
- Keep your windows clear of snow and ice. Remember to clean head, tail, and brake lights
- If you need to turn on your wipers, you need to turn on your headlights
- Bridges become slick and icy before roads. Bridge temperatures can be 5 to 6 degrees colder than roadways, so drive with extreme caution during freezing temperatures
- Keep your gas tank at least half full. Fill the tank before you park for lengthy periods of time. This will help prevent fuel line freeze-ups
- Leave ample stopping time between you and the vehicle in front of you. Breaking distance can be up to nine times greater on snowy, icy surfaces than on dry roads
- If your vehicle is equipped with anti-lock breaking system (ABS), be sure to: STOMP firmly—depress the brake pedal, STAY on the breaks—do not pump the brakes, STEER where you want the vehicle to go
- Gently pump non-ABS brakes to stop the vehicle. Take any corrective action gradually. You need to maintain full control of the vehicle. Refer to the vehicle operations manual for proper methods to correct skids
- During winter travel, it is best to supply those at your destination with the following information: your cell phone number, departure time, travel route, and anticipated arrival time
- Lock your vehicle, even in bad weather. If locks freeze, heat the key. Do not pour hot water on the locks—they will refreeze
- Stay with your vehicle while warming it up. An unattended, running car invites theft

Survival Tips if Stranded



- **The best advice is to remain with the vehicle. If nothing else, you are guaranteed shelter**
- Tie a bright colored cloth (handkerchief, towel, etc.) to the vehicle's antenna, driver door handle or outside mirror
- Keep the exhaust pipe clear of snow. Poisonous gases can filter into the vehicle if the pipe is clogged
- Run the engine and heater no more than 10 minutes every hour, leaving a downwind window slightly open for ventilation while the engine is running
- Light a flare or turn on a flashlight to let others know you're stranded in the vehicle
- Use floor mats, seat covers and blankets for added warmth. If you must leave your vehicle during a severe snow storm or blizzard, secure a lines of rope or cord to yourself and the vehicle to avoid becoming lost or disoriented
- Keep bottled water in your vehicle's emergency kit. Never eat snow. It will chill you and lower your body temperature
- Remain calm. Chances for rescue are better if you remain calm and in your vehicle



Indiana County Travel Advisories Map

Indiana’s travel advisory statutes use a three tiered system statewide. All counties in Indiana will be following the same guidelines for travel advisories, under state law.

The first level is a travel advisory, which tells drivers whether conditions may make travel difficult. The second level will be a travel watch, which recommends only essential travel on the roadways. The highest level is a travel warning, which means travel may be forbidden.

This law removed language for warning levels which varied in meaning from county to county and thus makes for more unified terminology.

Indiana Department of Homeland Security

County Travel Status for 2/1/2011 22:58:07 EST

Warning
Travel may be restricted to emergency personnel only. Citizens are directed to refrain from all travel, comply with necessary emergency measures, cooperate with public officials and disaster services forces in executing emergency operations plans, and comply with the directions of properly identified officers. Further and more specific restrictions may be included in the disaster declaration.

Watch
Conditions are threatening to the safety of the public. Only essential travel is recommended (i.e., to and from work, emergency situations, etc.). Emergency action plans have been or should now be implemented by businesses, schools, government agencies and other organizations.

Advisory
Routine travel or activities may be restricted in areas because of a hazardous situation. Citizens should use caution or avoid these areas. Schools and businesses may begin to implement their emergency action plans.

Caution
A condition may develop that limits or hinders travel in isolated areas. No travel restrictions have been placed in effect by county officials, but citizens should be alert to changing conditions.

NOTICE: Travel status information is provided by each county's emergency management agency.

Example of County Travel Advisories map from February 1-2, 2011 snowstorm.

County Travel Advisories Map

www.in.gov/dhs/traveladvisory

INDOT Road Information

indot.carsprogram.org 800-261-ROADS

pws.trafficwise.org

Winter Normals & Extremes for Indianapolis

Normal Highs: Mid 30s to Low 40s

Most snowfall: 2013-2014 with 52.2 inches

Normal Lows: Low to Mid 20s

Least Snowfall: 1931-1932 with 0.2 inches

Normal Snowfall 6 to 9 inches per month

Coldest temperature: -27°F on January 19, 1994

Normal Winter Snowfall Total: 25.9 inches

Coldest Daily Max Temperature: -11°F on January 20, 1985

How to Winterize Your Vehicle



- Check tire pressure and tread depth. Consult your owner’s manual for advice. Look for uneven wearing which can also be dangerous. Be sure to check the square tire and make sure the jack is operating properly.
- Check battery, exhaust system, heater and defroster. Make sure the battery is not past its lifespan, and that the terminals are tight and free of corrosion. Hoses and belts should be inspected for cracks. Now is the time to discover if your heater is broken—not when the temperature drops.
- Check antifreeze. Make sure that a 50% antifreeze, 50% water mixture is at the proper radiator level. If the coolant is two years old, get it flushed and refilled.
- Change oil every 3,000 to 5,000 miles. Consider using a lighter, “winter weight” oil. Refer to your owner’s manual for guidance.
- Check windshield wiper and blades. Replace the blades twice a year and make sure extra WINTER wiper fluid is on hand.
- Ensure the four-wheel drive system and breaks are functioning properly.

Prepare an Emergency Kit for your Vehicle

“Try to keep at least a half tank of gas in your car during the winter”

- ⇒ At least 2 blankets or a sleeping bag
- ⇒ Flashlight or battery-powered lantern and extra batteries
- ⇒ Jumper cables
- ⇒ Extra clothing, particularly boots, hats, and mittens
- ⇒ A steel shovel and rope to use as a lifeline
- ⇒ Bottled water or juice and nonperishable high-energy foods (granola bars, raisins, nuts, peanut butter, or cheese crackers)
- ⇒ Thermos or container that won’t allow liquids to freeze
- ⇒ First-aid kit and necessary medications
- ⇒ Sand or non-clumping cat litter for tire traction if your vehicle gets stuck in snow or ice
- ⇒ A cell phone charger which can be adapted to vehicle use
- ⇒ Ice scraper and snow brush
- ⇒ Tire repair kit and pump
- ⇒ Candle, matches, heat sticks/packs, lighters, hand-warmers, etc. Be sure to crack the window if you are using a heat source inside the vehicle.



Try to keep at least a half tank of gas in your car during the winter months. Even with the best maintenance & cautious driving, snow, ice, & freezing temperatures can sometimes still get the best of your vehicle. Hazardous winter driving conditions induce crashes, which are the leading cause of death during winter storms. Being prepared to handle potential slide-offs, crashes, & car trouble in winter is a simple but crucial step to take in preparing for the next few months.

What to Do if You're Caught in a Winter Storm

At Home or in a Building

Stay inside: When using alternative heat from a fireplace, wood stove, space heater, etc., use fire safeguards and ventilate properly.

If you have no heat:

- Close off unneeded rooms
- Stuff towels or rags in cracks under doors
- Cover windows at night

Eat and Drink: Food provides the body with energy for producing its own heat. Keep the body replenished with fluids to prevent dehydration

Wear layers of loose-fitting, light weight, warm clothing: Remove layers to avoid overheating, perspiration, and subsequent chill

In a Car or Truck

Stay in your vehicle: Disorientation occurs quickly in wind-driven snow and cold.

Run the motor about 10 minutes each hour for heat:

- To avoid carbon monoxide poisoning, open the window a little for fresh air
- Make sure the exhaust pipe is not blocked

Be visible to rescuers:

- Turn on your dome light at night when running the engine
- Tie a colored cloth (preferably red) to your antenna or door
- After snow stops falling, raise the hood to indicate you need help

Exercise from time to time by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm.

Outside

Find shelter:

- Try to stay dry
- Cover all exposed parts of the body

If no shelter:

- Prepare a lean-to, windbreak, or snow cave for protections from the wind
- Build a fire for heat and to attract attention
- Place rocks around the fire to absorb and reflect heat

December 26-28, 2012

An intense snow storm dumped 4 inches to over a foot of snow in central and southern Indiana on Dec. 26th. Powerful winds gusted to greater than 40 mph as the snowfall peaked. Two days later another system dropped an additional 3 to 8 inches over the same region.

January 7-8, 2011

A record breaking lake effect snow event dropped 3 feet of snow on South Bend, IN with 8 inches in 1 hours and 19 inches in 4 hours. A widespread area of 1-2 feet of snow occurred in the surrounding counties.

February 1-2, 2011

The "Chicago Blizzard" brought over a foot of snow to many locations in northern Indiana, 1.5 inches of freezing rain and sleet to central Indiana, and winds greater than 50 mph across the entire state. Drivers were stranded on Lakeshore Dr. in Chicago where over 20 inches of snow fell.

Winter Weather Preparedness for Schools

Gathering Information

- Know where to get weather information: Utilize NOAA Weather Radio, local media sources, and internet.
- Know how and where to get road information: Highway Departments or Law Enforcement are often your best sources for road conditions. City and county transportation or school officials, and drives or security teams are also excellent sources.

Alerting Staff, Students, and Family

- Take action, spread the word: Mobile communications for bus drivers; email/text/phone messages to families/staff; announcements in school.

Activating a Plan

- Determine when to activate a plan: Gather information about the type of winter storm, expected impact, and time of impact on the school district.

Canceling or Delaying Classes

- Determine when to cancel or delay classes: How much time do you have before the storm impacts the area? Not only must students be transported to school safely, but also back home via bus, car, or on foot. What kind of an impact will the storm make? Will roads be impassable or will road conditions just have a minimal effect on transportation of students, causing only small delays?

School Bus Driver Actions

- For heavy snow or blowing and drifting snow: Be familiar with alternate routes, stay up to date on the latest forecast, and maintain communication with school officials.
- For ice storms: Remain alert for downed trees, utility lines, and other road hazards. Be familiar with alternate routes. Stay up to date on the forecast and maintain communication with school officials.
- For extreme cold: Recognize and train for treating symptoms of hypothermia and frostbite.

Safety Instruction

- Educate school staff and students: Conduct drills and hold safety programs annually.
- Participate in Winter Weather Preparedness Week campaigns.
- Contact your local Emergency Manager or National Weather Service office for a speaker to discuss winter weather safety.



Winter Injuries

Related to Ice and Snow:

- About 70% occur in automobiles
- About 25% are people caught out in the storm
- Majority are males over 40 years old

Related to Exposure to Cold:

- 50% are people over 60 years old
- Over 75% are males
- About 20% occur inside the home

Winter Brings More Than Just Snow...



Snowstorm brought over a foot of snow to central and northern IN with wind chills to 40 below zero, making travel dangerous on Jan. 5-6, 2014

Photo courtesy of NWS Indianapolis

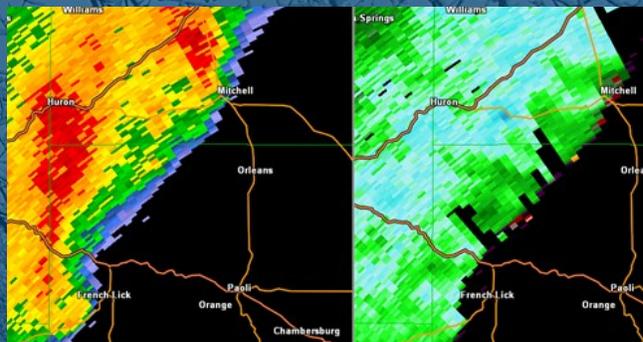


Non-thunderstorms winds, with gusts over 60 mph, damaged buildings, downed trees, and left tens of thousands of Hoosiers without power on Feb. 24, 2019.



A wintry mix of snow, sleet, and freezing rain brought hazardous travel and widespread power outages on Nov. 14-15, 2018.

Photo courtesy NWS Indianapolis



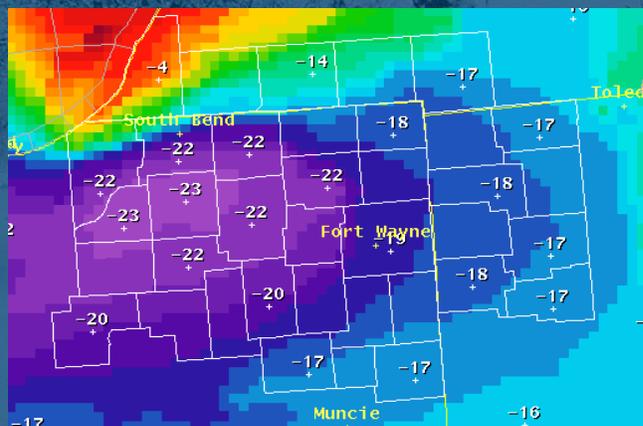
7 tornadoes, southern IN, Feb 28, 2017

NWS Louisville Radar



“Chicago Blizzard” drops as much as 2 feet of snow in the southern Great Lakes and brings several inches of sleet to most of Indiana Feb. 1-2, 2011

Photo courtesy NWS N. Indiana



Record cold temperatures blast Northern Indiana on Jan. 16, 2009.

Photo courtesy NWS N. Indiana

Find us on Social Media!

 @NWSIndianapolis

 US National
Weather Service
Indianapolis Indiana

Send Us Your Reports

We need to know what's really going on where you are! Send us a tweet @NWSIndianapolis or comment on our Facebook page to let us know what type of precipitation is falling, how much snow you've measured, if there's any ice accumulation, or if you measure any strong wind gusts. Better yet, you can send us pictures or video to really show us what you're seeing! But don't forget to include your location and the time during which this took place.



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Protecting life & property

Your Winter Weather Report Could Help Save Lives

Advanced dual polarization doppler radar (WSR-88D), Geostationary Operational Environmental Satellite (GOES), Automated Surface Observing System (ASOS), and Advanced Weather Interactive Processing System (AWIPS) are just a few of the highly sophisticated tools National Weather Service (NWS) meteorologists use when forecasting and monitoring hazardous weather. However, the most important element these meteorologists rely on during a winter weather event is real-time weather reports from both trained weather spotters and the general public. This information either confirms the data being interpreted from these tools, or the reports let meteorologists know something entirely different is happening and life-saving forecasts/warnings/advisories need to be adjusted and updated. If no warnings or advisories are in place but weather reports indicate widespread dangerous weather conditions with significant impacts are occurring, then meteorologists will update as appropriate to let people know that weather conditions may make travel unsafe.

So how can you make a winter weather report to the NWS? It is quite simple and there are a multitude of methods to easily get your report directly to NWS meteorologists. First, just tag your local NWS office on their Facebook or Twitter social media accounts. Pictures with a brief description of the conditions you are seeing are incredibly helpful. Not on social media? No problem. Just send the same information to your local NWS office using their office email address.

You can also download a free crowdsourcing weather reporting app to your smartphone called mPING (Meteorological Phenomena Identification Near the Ground - <https://mping.nssl.noaa.gov/>). These reports are immediately archived in a database for future research but are also made accessible to everyone, including NWS Meteorologists. Another more in depth method for reporting is to actually become a trained precipitation observer through another crowdsourcing program called CoCoRaHS (Community Collaborative Rain, Hail and Snow Network - <https://www.cocorahs.org/>). This is a nationwide network of precipitation observers with rain gauges and snow boards and they report daily measurements to a national network. An option exists to also report significant weather events any time of day or night. These reports are relayed automatically and instantaneously to your local NWS office.

Each Indiana NWS office's email address and social media accounts are listed in this newsletter. Please help save lives this winter and use one of these methods to report road conditions, snowfall, ice accumulation, heavy rainfall, flooding or any other significant weather event, anytime, day or night. Your local NWS office will be very appreciative of your help and reports. Stay warm and safe this winter season!

Sam Lashley
Warning Coordination Meteorologist
NWS Indianapolis